

ABSTRACT OF THE DISCLOSURE

A discrete inductive-capacitive (LC) filter selects between at least two inductor banks to tune the LC filter. The filter receives an input signal that includes one or more bands of frequencies. A control signal selects a band of frequencies for processing. A first inductor bank is selected to filter a first band of frequencies, and a second inductor bank is selected to filter a second band of frequencies. A switch circuit couples the input signal to either the first inductor bank or the second inductor bank. The switch circuit selects the first inductor bank if the first band of frequencies is selected, and selects the second inductor bank if the second band of frequencies is selected. The switch circuit electrically isolates the switching of the input signal to the first and the second inductor banks, so as to enhance the Q factor of the LC filter. Circuit and techniques are disclosed to reduce parasitic capacitance in a capacitive bank that employs MOS transistors. Furthermore, circuits and techniques are disclosed to tune a coupling factor on an inductive bank based on the frequency of the input signal.